WHAT IS CLAIMED IS:

1.   A method of managing network traffic, comprising,

receiving a request for network resources via a signaling

protocol, the request including information identifying an

5   application;

evaluating the information identifying the application

against policy information; and

determining access to network resources based on a result

of the evaluation.

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2.   The method of claim 1 wherein the information

identifying the application includes an application

identifier.

15   3.   The method of claim 1 wherein the signaling protocol

comprises RSVP.

4.   The method of claim 1 wherein determining access to

network resources based on a result of the evaluation includes

20   admitting or denying the request.

5.   The method of claim 1 wherein determining access to

network resources based on a result of the evaluation includes

returning marking information in response to the request.

6.　　The method of claim 5 wherein the marking information represents a relative priority level.

5　　7.　　The method of claim 5 wherein the marking information includes a differentiated services codepoint.

8.　　The method of claim 5 wherein returning marking information includes providing a DCLASS object.

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9.　　The method of claim 5 wherein the DCLASS object includes a differentiated services codepoint.

10.　The method of claim 1 wherein the request further

15　includes quantitative information.

11.　A computer-readable medium having computer-executable instructions for performing the method of claim 1.

20　　12.　A method of requesting network resources, comprising:

constructing a request message in accordance with a signaling protocol, the request message including information

identifying a type thereof as qualitative, and further

including qualitative information; and

　　sending the request message to request network resources,

the request message passing through at least one network

5　device that evaluates the qualitative information in the

request message to determine access to network resources.

　　13.　The method of claim 12 further comprising, receiving

a return message.

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　　14.　The method of claim 12 wherein the signaling

protocol comprises RSVP.

　　15.　The method of claim 12 wherein the qualitative

15　information has an associated hierarchy.

　　16.　The method of claim 12 wherein determining access to

network resources based on a result of the evaluation includes

admitting or denying the request.

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　　17.　The method of claim 12 further comprising, receiving

a return message indicating that access to the requested

resources is denied.

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18.   The method of claim 12 further comprising, receiving a return message including marking information.

19.   The method of claim 18 wherein the marking

5   information represents a relative priority level.

20.   The method of claim 18 wherein the marking information includes a differentiated services codepoint.

10   21.   The method of claim 18 wherein returning marking information includes providing a DCLASS object.

22.   The method of claim 21 wherein the DCLASS object includes a differentiated services codepoint.

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23.   The method of claim 18 further comprising, attaching the marking information to subsequent flow.

24.   The method of claim 12 wherein the request message

20   is sent towards a receiver.

25.   A computer-readable medium having computer-executable instructions for performing the method of Claim 12.

26. A method of managing network traffic, comprising:

receiving a request for network resources via a signaling protocol, the request including qualitative information;

evaluating the qualitative information in the request against policy information; and

returning information based on a result of the evaluation including information that specifies to an upstream sender how to mark packets for classification thereof.

27. The method of claim 26 wherein the information in the request further includes quantitative information.

28. The method of claim 26 wherein the qualitative information in the request includes an application identifier.

29. The method of claim 26 wherein the request comprises an RSVP PATH message.

30. A computer-readable medium having computer-executable instructions for performing the method of Claim 20.

31. In a computer network, a system for providing quality of service via a signaling protocol, comprising:

a sender, the sender providing a message comprising

qualitative information therein including information

identifying an application;

a receiver, the receiver receiving the message from the

5 sender and providing a return message in response thereto; and

a policy enforcement device, the policy enforcement

device evaluating at least one of the messages communicated

between the sender and the receiver, and determining access to

resources based on the qualitative information.

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32. The system of claim 31 wherein the information

identifying the application includes an application

identifier.

15 33. The system of claim 31 wherein the policy

enforcement device includes a router.

34. The system of claim 31 wherein the policy

enforcement device includes a switch.

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35. The system of claim 31 wherein the signaling

protocol comprises RSVP.

36. The system of claim 31 wherein the policy
enforcement device determines access to resources by adding
marking information to the return message.

5   37. The method of claim 36 wherein the marking
information represents a relative priority level.

38. The system of claim 36 wherein the marking
information includes a differentiated services codepoint.

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39. The system of claim 36 wherein the marking
information includes a DCLASS object.

40. The computer-readable medium of claim 39 wherein the
15 DCLASS object includes a differentiated services codepoint.

41. A computer-readable medium having a data structure
for communicating network quality of service information on a
network, comprising, a first field including a message header
20 identifying a message in a signaling protocol, a second field
identifying the message as having qualitative information
associated therewith, and a third field including at least one
set of qualitative parameters.

42.   The computer-readable medium of claim 41 wherein the data structure is provided in an RSVP message from a sender.

43.   The computer-readable medium of claim 41 wherein the computer-readable medium comprises a data transmission medium.

44.   The computer-readable medium of claim 41 wherein one of the parameters in the third field corresponds to information identifying an application.

45.   A computer-readable medium having a data structure for communicating network quality of service information on a network, comprising, a first field identifying the message as having qualitative information associated therewith, and a second field including marking information corresponding to the qualitative information.

46.   The computer-readable medium of claim 45 wherein the data structure is provided in an RSVP reservation message.

47.   The computer-readable medium of claim 45 wherein the marking information represents a relative priority level.

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48.   The computer-readable medium of claim 47 wherein the marking information includes a differentiated services codepoint.

5   49.   The computer-readable medium of claim 47 wherein the marking information comprises a DCLASS object.

50.   The computer-readable medium of claim 49 wherein the DCLASS object includes a differentiated services codepoint.

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51.   The computer-readable medium of claim 44 wherein the computer-readable medium comprises a data transmission medium.